Nonlocality Counterfactuals and the Quantum Theory (S.L. Andrews April 1981)

1.) D'Espagnat Quote — renewed interest in philosophy of QM since Bell (1964).

2.) Problems of Counterfactuals
   a.) clock striking as I sway back
   2.) atom decays as I raise my hand or Morgenbesser Peculiar example.

3) Minimal instrumentalist interpretation of QM (a pragmatist & pragmatic) — set of rules for predicting experimental results

4) Uncertainty Relations:

   3 views on observables not in eigenstate
   a) Sharp unknown value
   2) unsharp or fuzzy value (1)
   c) undefined or meaningless value

   3 views on what measurement does
   a) no-existing value revealed
   2) potential or latent value actualized (2)
   c) undefined value becomes defined

   How is this change brought about?
   a) Interaction with a physical instrument (2a)
   2) Action of human consciousness

5.) The EPR Argument (1935)
Locality 1 : un sharp → sharp forbidden
Locality 2 : undefined → defined
(2b) and (2c)

6) The Bell Argument (1964)
Locality 3: sharp → sharp forbidden
(2d) (3) (4) (5) (6) (6a)

7) The Stapp - Eberhard Approach
Locality 4: classical state of Mermaspace does not cannot be altered 'at a distance'
The problem of counterfactuals in the case of indeterminism
(7) (8) (9) ; (10)

8) Locality 5 : No statistical effects induced at a distance — tagging experiments at the wrong location — Oxford lecture, recall on chalkboard example
(11)

9) Does violation of Locality 1 or Locality 3 violate special relativity?
(12)

10) The Fucher-Specker paradox and decoherentization
(13)

11) Re role of human interests - rebuttal of disagmt

12.) The Interveties of Physics and Ethical remarks

(14)